

868 428*288/CCLS
1137 428*290/CCLS
14129 LATEX

L1 296 (428*288/CCLS OR 428*290/CCLS) AND LATEX

=> s 11 and composite
64746 COMPOSITE

L2 91 L1 AND COMPOSITE

=> s 12 and (tile or board or panel)
3933 TILE
54695 BOARD
79752 PANEL

L3 24 L2 AND (TILE OR BOARD OR PANEL)

=> s 11 and (tile or board or panel)d 13 1-24
MISSING OPERATOR 'PANEL'D L3'

=> s 11 and (tile or board or panel)
3933 TILE
54695 BOARD
79752 PANEL

L4 55 L1 AND (TILE OR BOARD OR PANEL)

=> s 13 and 14
L5 24 L3 AND L4

=> s 13 or 14
L6 55 L3 OR L4

=> d 16 1-55

1. ~~4,880,119~~, Jan. 24, 1989, Resilient, wear-and weather-resistant

comPosite surface material; Richard A. Kolar, 428*283; 156*278, 279, 280;
428*284, **290**, 314.4, 317.1

2. ~~4,770,544~~, Oct. 18, 1988, Low toxic navy **board** facing; Charles E.
Jones, et al., 156*60; 52*515; 106*18.12, 18.26; 156*71; 252*608; 427*397.8;
428*253, 268, **290**, 442, 913, 920 [IMAGE AVAILABLE]

3. ~~4,702,957~~, Oct. 27, 1987, Binders for nonwovens based on EVA-maleate
copolymers; Paul R. Mudge, **428*288**; 5*482, 487, 499, 502; 8*181, 184;
427*389.9, 392, 394, 396; **428*290**; 604*365, 374, 375, 377

4. ~~4,695,503~~, Sep. 22, 1987, Coated, oriented, polymer film laminate; Leland
.. Liu, et al., 428*207; 264*176.1; 428*200, 282, **288**, 327, 331, 349,
461, 463, 484, 510, 516, 518, 520, 910

5. ~~4,659,412~~, Apr. 21, 1987, Method for adhering a coating material to
densified random-fiber **comPosite** sheet; Ritchey O. Newman, et al.,

156*322; 138*143, 146; 427*316; 428*86, **290**, 291

6. ~~4,617,230~~, Oct. 14, 1986, **Latex** containing odor inhibitor; Pravinchandra K. Shah, et al., **428*288**; 427*36, 223; 428*274, 289, **290**, 905, 913; 524*831; 604*359

7. ~~4,610,920~~, Sep. 9, 1986, Binders for nonwovens; Paul R. Mudge, et al., **428*288**; 427*391, 392, 394; **428*290**; 524*502

8. ~~4,610,919~~, Sep. 9, 1986, Binder for fibrous padding; James Kent, 428*285; 427*421, 428*287, **288**, **290**; 524*513, 514

9. ~~4,609,580~~, Sep. 2, 1986, Absorbent floor mat; Luann T. Rockett, et al., 428*198, 187, **288**, 297, 303, 340

10. ~~4,609,433~~, Sep. 2, 1986, Sheet composites containing crystalline phosphate fibers; Marvin M. Crutchfield, et al., 162*145, 152, 164.3, 164.6,

168.1, 169, 170; 428*219, **288**, **290**, 338, 379, 392, 401, 704

11. ~~4,548,678~~, Oct. 22, 1985, Flexible sheet material and articles made therefrom; Philip Laflin, et al., 162*146, 164.6, 168.2, 175, 181.9; 418*152; **428*288**, 326, 408, 902

12. ~~4,547,422~~, Oct. 15, 1985, Fabric reinforced multiple ply conveyor belt; Brian H. Oliver, et al., 428*286; 156*137; 198*847; **428*290**, 475.8, 506, 520

13. ~~4,532,176~~, Jul. 30, 1985, Fibrous material comprised of vermiculite coated fibers; Peter J. Briggs, et al., **428*288**; 106*18.12; 428*372, 375, 378, 389, 392, 401

14. ~~4,518,649~~, May 21, 1985, Soil releasing textiles containing fluorochemical soil release agents and method for producing same; Robert C. Wang, et al., 428*284; 5*482, 502; 427*393.4; 428*224, 287, **290**, 421,

422, 913

15. ~~4,507,342~~, Mar. 26, 1985, Polymers adherent to polyolefins; Andrew J. Kielbania, Jr., 428*90, **290**, 394, 516, 522

16. ~~4,504,537~~, Mar. 12, 1985, Rug underlay comprising open lattice with partially fused needle punched fiber layers; Charles S. Mussallem, Jr., 428*167; 264*505; 428*91, 95, 172, 234, 235, 239, 247, 252, 284, **288**, 300, 301

17. ~~4,495,238~~, Jan. 22, 1985, Fire resistant thermal insulating structure and garments produced therefrom; Joseph G. Adiletta, 428*215, 236, 284, 285, 286, 287, **288**, 903, 920, 921

18. ~~4,476,175~~, Oct. 9, 1984, Building materials comprising non-woven webs; John S. Forry, et al., 428*170; 156*62.4, 62.8; 264*510; 428*171, 172, 281, 286, 287, **288**

19. ~~4,472,470~~, Sep. 18, 1984, Fibrous **composite** materials and the production and use thereof; Peter J. Briggs, et al., 428*283; 162*181.4, 181.5, 181.6, 181.8; 428*281, **288**, 324, 372, 454

20. ~~4,460,643~~, Jul. 17, 1979, Nonwoven fibrous backing for vinyl wallcover; William P. Stevens, et al., 428*284, 286, 287, **290**, 298, 326, 343, 354, 904.4

21. ~~4,443,903~~, Apr. 24, 1984, **Composite** upholstered furniture or mattress assembly with flame retardant-smolder resistant textile backcoated fabric layer; George J. Leiber, 5*459; 2*81; 5*483, D1*1; 428*248, 262, 264, 276, 277, **290**, 510, 526, 527, 920; 524*512
22. ~~4,434,521~~, Mar. 6, 1984, Applicator for applying a coating to a surface; Emil Martin, et al., 15*230.11, 209R, 227; 29*132; **428*290**
23. ~~4,413,020~~, Feb. 21, 1984, Sheet-like material, heat-insulating material derived therefrom and methods of manufacturing same; Hiroshi Narukawa, et al., 428*113; 162*159; 428*283, **288**, 323, 408, 443, 902, 920
24. ~~4,429,216~~, Jan. 31, 1984, Conductive element; Alan Brigham, 219*528, 529, 540, 548, 549; 338*211; 427*121, 122, 180, 197, 202, 282, 299, 397.7; 428*87, 95, 96, 97, 195, 201, 204, 207, 208, 283, 286, **288**, 289, 302, 303, 337, 339, 901
25. ~~4,425,126~~, Jan. 10, 1984, Fibrous material and method of making the same using thermoplastic synthetic wood pulp fibers; George A. M. Butterworth, et al., 604*366; 264*119, 126, 128; 428*17, 152, 181, 198, 286, **290**, 296, 302, 310.5, 316.6; 604*367, 375
26. ~~4,414,267~~, Nov. 8, 1983, Method for treating discontinuous cellulose fibers characterized by specific polymer to plasticizer and polymer-plasticizer to fiber ratios, fibers thus treated and composites made from the treated fibers; Aubert Y. Coran, et al., **428*288**, 294, 295, 302, 326, 361; 524*14, 35
27. ~~4,379,808~~, Apr. 12, 1983, Sheet type forming **board** and formed **board** products; John N. Cole, et al., 428*438; 156*62.2, 196, 242; 162*142, 181.1; 264*109, 112, 119; **428*288**, 326, 327, 441, 454, 511, 535
28. ~~4,363,847~~, Dec. 14, 1982, Flexible sheet material; Brian Hargreaves, et al., 428*283; 162*181.6; 277*235B; 428*237, 241, **288**, 324, 326, 331, 451
29. ~~4,356,229~~, Oct. 26, 1982, Bonded nonwoven fabrics suitable for diaper coverstock; John G. Brodnyan, et al., **428*288**; 128*155, 156; 428*297; 524*824, 833
30. ~~4,328,167~~, Mar. 16, 1982, Nonwoven fabric and method of production thereof; Marvin Wishman, **428*288**; 28*107, 112; 156*62.2, 62.4, 62.6, 62.8, 308.2; 428*95, 113, 294, 296, 300
31. ~~4,271,228~~, Jun. 2, 1981, Sheet material containing exfoliated vermiculite; Richard P. Foster, et al., 428*281; 277*22, 166, 235B; 428*237, 241, **288**, 323, 324, 325, 328, 920
32. ~~4,260,660~~, Apr. 7, 1981, Use of sulphur as an additive to inhibit the smoldering combustion of materials; Robert J. McCarter, 428*284; 5*459; 29*91.1, 91.5; 297*DIG.5; 427*393.3; 428*286, 287, 289, **290**, 291, 304.4, 341, 543, 688
33. ~~4,245,689~~, Jan. 20, 1981, Dimensionally stable cellulosic backing web; Henry P. Grand, et al., 162*134, 135, 137, 145, 146, 158, 161, 162, 168.1, 168.2, 168.7, 169, 172, 181.1, 181.5, 181.7, 183, 184; 428*236, 286, **288**, **290**, 297, 304.4, 385, 391
34. ~~4,235,027~~, Nov. 25, 1980, Laminated insole; Tej K. Singh, 36*44; 428*244, 281, **290**, 317.9, 408

35. ~~4, 210, 562~~, Jul. 1, 1980, Cellulose-containing phenolic resin-based binder; Frank P. McCombs, 524*44; ~~428*290~~, 429, 436; 524*594

36. ~~RE 30, 233~~, Mar. 18, 1980, Multiple layer decorated paper, laminate prepared therefrom and process; William C. Lane, et al., 428*207; 156*277; 162*181.6, 186; 264*132; 427*203, 205; 428*219, ~~288~~, ~~290~~, 328, 329

37. ~~4, 174, 420~~, Nov. 13, 1979, Upholstered furniture having improved flame resistance; Colin Anolick, et al., ~~428*290~~; 5*459; 156*78; 297*452, DIG.5; 428*304.4, 316.6, 921; 521*85, 90, 92, 136

38. ~~4, 137, 110~~, Jan. 30, 1979, Method of making laminated insoles; Tej K. Singh, 156*62.2; 36*44; 156*279; 427*202, 243, 407.1; 428*244, 281, ~~290~~, 308.4, 408

39. ~~4, 124, 554~~, Nov. 7, 1978, Post-formed aqueous phenolic resin dispersions;

John S. Fry, 523*412; ~~428*290~~, 460, 528, 531; 523*424; 524*316, 364, 376, 389, 503, 510

40. ~~4, 082, 886~~, Apr. 4, 1978, Liquid absorbent fibrous material and method of making the same; George A. M. Butterworth, et al., 428*284; 156*62.8, 181, 272.2, 275.1, 308.4, 309.6; 428*286, ~~288~~, 289, 296, 298, 299, 310.5, 311.5, 535, 537.1, 913

41. ~~3, 998, 871~~, Dec. 21, 1976, Sulfonated isocyanate compositions; Robert C. Carlson, 528*71; 156*62.8, 77; 427*337; 428*224, ~~288~~; 429*122, 249; 525*460; 528*59; 558*240; 560*13 [IMAGE AVAILABLE]

42. ~~3, 998, 870~~, Dec. 21, 1976, Sulfonated aromatic polyisocyanates and preparation of stable anionic polyurethane or polyurea latices therefor; Robert C. Carlson, 528*71; 156*62.8, 77; 427*337; 428*224, ~~288~~; 525*453; 528*59; 558*240; 560*13 [IMAGE AVAILABLE]

43. ~~3, 983, 291~~, Sep. 28, 1976, Silanol-containing urethane dispersions; Joe H-S Chang, ~~428*290~~, 311.1, 311.7, 423.4, 425.1, 425.6, 425.8, 447, 457

44. ~~RE 28, 957~~, Sep. 7, 1976, Synthetic resin compositions and methods of utilizing the same; Arthur H. Drelich, et al., 427*331, 283, 288, 322, 324, 340, 341, 342; 428*198, ~~290~~; 524*407, 413, 416

45. ~~3, 963, 843~~, Jun. 15, 1976, Surface texture for fibrous boards; Fred C. Norgard, 428*147; 156*279; 162*152; 427*188, 198, 262; 428*159, 161, 172, 195, 206, 207, ~~290~~, 313.5, 327

46. ~~3, 955, 031~~, May 4, 1976, Flame resistant building material; Isaac Palmer Jones, et al., ~~428*288~~; 156*309.6, 324.4; 428*311.5, 337, 342, 442, 537.7, 703, 921

47. ~~3, 953, 632~~, Apr. 27, 1976, Resin impregnated mats and method of making the same; Leonard W. Robinson, 428*95, 96, 97, 286, ~~290~~

48. ~~3, 940, 532~~, Feb. 24, 1976, Needled textile fabric with a thin polymeric coating thereon; Alexander M. Smith, II, 428*218; 28*115; 428*151, 283, ~~290~~, 300, 301, 904

49. ~~3, 930, 074~~, Dec. 30, 1975, Synthetic resin compositions and methods of applying the same to porous materials to control migration thereon; Arthur H. Drelich, et al., 427*341, 302, 303, 342; 428*262, ~~290~~, 514; 524*28, 45

50. ~~3, 930, 073~~, Dec. 30, 1975, Migration control resin compositions and methods of using the same on porous materials; Arthur H. Drelich, et al., 427*341, 302, 303, 342, 428*262, ~~290~~, 514, 524*28, 45

51. ~~3,928,676~~, Dec. 23, 1977, Synthetic resin compositions and methods applying the same to porous materials to control migration thereon; Arthur H. Drelich, et al., 427*341, 302, 303, 342; 428*262, **290**, 514; 524*28, 45

52. ~~3,927,236~~, Dec. 16, 1975, Resin compositions, methods of applying the same to porous materials, and the resulting products; Jay S. Shultz, **428*290**, 411.1

53. ~~3,908,057~~, Sep. 23, 1975, Fabric with thin surface matrix and method for production thereof; Alexander M. Smith, II, 428*151; 28*108, 112, 158, 163, 169; 428*172, 235, 284, **288**, **290**, 300, 301, 302

54. ~~3,889,024~~, Jun. 10, 1975, Method of controlling the migration of resin compositions in the manufacture of porous materials; Arthur H. Drelich, et al., 427*243, 342; **428*290**; 524*437

55. ~~3,873,486~~, Mar. 25, 1975, RESIN COMPOSITIONS; Arthur H. Drelich, 524*413; 428*198, **288**; 524*99, 188, 407, 423, 427, 428, 432

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Figure 1. The effect of the concentration of the Ca^{2+} solution on the Ca^{2+} concentration in the Ca^{2+} solution. The concentration of the Ca^{2+} solution was 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.0, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.0, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 13.0, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 14.0, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 15.0, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.0, 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9, 17.0, 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 18.0, 18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 19.0, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 20.0, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 21.0, 21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7, 21.8, 21.9, 22.0, 22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.7, 22.8, 22.9, 23.0, 23.1, 23.2, 23.3, 23.4, 23.5, 23.6, 23.7, 23.8, 23.9, 24.0, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 24.7, 24.8, 24.9, 25.0, 25.1, 25.2, 25.3, 25.4, 25.5, 25.6, 25.7, 25.8, 25.9, 26.0, 26.1, 26.2, 26.3, 26.4, 26.5, 26.6, 26.7, 26.8, 26.9, 27.0, 27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7, 27.8, 27.9, 28.0, 28.1, 28.2, 28.3, 28.4, 28.5, 28.6, 28.7, 28.8, 28.9, 29.0, 29.1, 29.2, 29.3, 29.4, 29.5, 29.6, 29.7, 29.8, 29.9, 30.0, 30.1, 30.2, 30.3, 30.4, 30.5, 30.6, 30.7, 30.8, 30.9, 31.0, 31.1, 31.2, 31.3, 31.4, 31.5, 31.6, 31.7, 31.8, 31.9, 32.0, 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 32.7, 32.8, 32.9, 33.0, 33.1, 33.2, 33.3, 33.4, 33.5, 33.6, 33.7, 33.8, 33.9, 34.0, 34.1, 34.2, 34.3, 34.4, 34.5, 34.6, 34.7, 34.8, 34.9, 35.0, 35.1, 35.2, 35.3, 35.4, 35.5, 35.6, 35.7, 35.8, 35.9, 36.0, 36.1, 36.2, 36.3, 36.4, 36.5, 36.6, 36.7, 36.8, 36.9, 37.0, 37.1, 37.2, 37.3, 37.4, 37.5, 37.6, 37.7, 37.8, 37.9, 38.0, 38.1, 38.2, 38.3, 38.4, 38.5, 38.6, 38.7, 38.8, 38.9, 39.0, 39.1, 39.2, 39.3, 39.4, 39.5, 39.6, 39.7, 39.8, 39.9, 40.0, 40.1, 40.2, 40.3, 40.4, 40.5, 40.6, 40.7, 40.8, 40.9, 41.0, 41.1, 41.2, 41.3, 41.4, 41.5, 41.6, 41.7, 41.8, 41.9, 42.0, 42.1, 42.2, 42.3, 42.4, 42.5, 42.6, 42.7, 42.8, 42.9, 43.0, 43.1, 43.2, 43.3, 43.4, 43.5, 43.6, 43.7, 43.8, 43.9, 44.0, 44.1, 44.2, 44.3, 44.4, 44.5, 44.6, 44.7, 44.8, 44.9, 45.0, 45.1, 45.2, 45.3, 45.4, 45.5, 45.6, 45.7, 45.8, 45.9, 46.0, 46.1, 46.2, 46.3, 46.4, 46.5, 46.6, 46.7, 46.8, 46.9, 47.0, 47.1, 47.2, 47.3, 47.4, 47.5, 47.6, 47.7, 47.8, 47.9, 48.0, 48.1, 48.2, 48.3, 48.4, 48.5, 48.6, 48.7, 48.8, 48.9, 49.0, 49.1, 49.2, 49.3, 49.4, 49.5, 49.6, 49.7, 49.8, 49.9, 50.0, 50.1, 50.2, 50.3, 50.4, 50.5, 50.6, 50.7, 50.8, 50.9, 51.0, 51.1, 51.2, 51.3, 51.4, 51.5, 51.6, 51.7, 51.8, 51.9, 52.0, 52.1, 52.2, 52.3, 52.4, 52.5, 52.6, 52.7, 52.8, 52.9, 53.0, 53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8, 53.9, 54.0, 54.1, 54.2, 54.3, 54.4, 54.5, 54.6, 54.7, 54.8, 54.9, 55.0, 55.1, 55.2, 55.3, 55.4, 55.5, 55.6, 55.7, 55.8, 55.9, 56.0, 56.1, 56.2, 56.3, 56.4, 56.5, 56.6, 56.7, 56.8, 56.9, 57.0, 57.1, 57.2, 57.3, 57.4, 57.5, 57.6, 57.7, 57.8, 57.9, 58.0, 58.1, 58.2, 58.3, 58.4, 58.5, 58.6, 58.7, 58.8, 58.9, 59.0, 59.1, 59.2, 59.3, 59.4, 59.5, 59.6, 59.7, 59.8, 59.9, 60.0, 60.1, 60.2, 60.3, 60.4, 60.5, 60.6, 60.7, 60.8, 60.9, 61.0, 61.1, 61.2, 61.3, 61.4, 61.5, 61.6, 61.7, 61.8, 61.9, 62.0, 62.1, 62.2, 62.3, 62.4, 62.5, 62.6, 62.7, 62.8, 62.9, 63.0, 63.1, 63.2, 63.3, 63.4, 63.5, 63.6, 63.7, 63.8, 63.9, 64.0, 64.1, 64.2, 64.3, 64.4, 64.5, 64.6, 64.7, 64.8, 64.9, 65.0, 65.1, 65.2, 65.3, 65.4, 65.5, 65.6, 65.7, 65.8, 65.9, 66.0, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 66.7, 66.8, 66.9, 67.0, 67.1, 67.2, 67.3, 67.4, 67.5, 67.6, 67.7, 67.8, 67.9, 68.0, 68.1, 68.2, 68.3, 68.4, 68.5, 68.6,

copolymers of monovinylidene aromatic acid and a diene or substituted diene and an arylalkoxycarboxylic acid monomer.

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